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293 7590 12/27/2007 Ralph A. Dowell of DOWELL & DOWELL P.C. 2111 Eisenhower Ave Suite 406 Alexandria, VA 22314			EXAMINER STEELMAN, MARY J	
			ART UNIT 2191	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/666,316

Applicant(s)

DEFAIX ET AL.

Examiner

MARY STEELMAN

Art Unit

2191

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3,6-21 and 24-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-21 and 24-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This Office Action is in response to RCE, Amendments to the Claims, and Remarks received 10/04/2007. Per Applicant's request, claims 1, 10, 11, 15, 17, 18, 19, and 29 are amended. Claims 4, 5, 22, 23, are cancelled. Claims 1-3, 6-21, and 24-29 are pending.

#### ***Claim Rejections - 35 USC § 112***

2. In view of the amendment to claims 10 & 28, the prior 35 U.S.C. 112 2<sup>nd</sup> paragraph rejections are hereby withdrawn.

#### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-3, 6-10, 15-18, and 29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Independent claims 1, 10, 15, and 17 appear to be system claims comprising a central server, proxy server, and client. These are found to be software per se, as there is no hardware claimed. Applicant may amend claim language to recite each central server, proxy server, client server system includes a processor and computer readable medium, as supported in the Specification at [0024]. Suggested language: "...comprising: networked processors and computer readable mediums; ..."

#### ***Response to Arguments***

4. Applicant's arguments with respect to claims have been considered but are moot in view of the new grounds of rejection.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 10, 15, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent Application Publication 2003 / 0018878 A1.

Per claim 10:

- a plurality of chained together proxy servers adapted to serve a geographical area, wherein each proxy server of said plurality of chained together proxy servers is connected to at least one client, said plurality of chained together proxy servers each being connected to one proxy server, said one proxy server being connected to said central server;
- wherein updates from the central server to the plurality of chained together proxy servers are first sent to the one proxy server.

Dorward: [0018], The server 104 is preferably implemented as a computer or **set of computers and associated memory devices**...Similarly, the **file server** 108 is preferably implemented as **one or more computers**. [0019], element 104 can be implemented in a distributed manner, for example, as **a set of computers in the form of a server farm or cluster**.” [0021], server 104...to store archival data...the data storage element 116 may be a distributed storage element comprising multiple distinct storage devices, and may comprise, by way of example...RAID (redundant array of independent disks) devices...other long term storage devices, in any combination.

[0057-0058], server 104 provides a mechanism (server adapted to control all modifications) by which client applications can direct the storage and retrieval of data blocks...The **write once** (read only cache) nature of the server 104 does not allow such a tree to be modified, but new versions (create new versions) of the tree can be generated efficiently by storing the new or modified data blocks and reusing the unchanged sections of the tree (managing multiple versions of the same file) (retrieve prior versions by using ‘fingerprint’ to find root of tree of blocks which correspond to a hierarchical hash of the original data).

[0075-0076], **off-site mirrors** for the server...**copy** new blocks...to the mirror [0076], **server 104 may be distributed across multiple machines...access performance could be improved** by replicating the server and using a simple load balancing algorithm. When storing or **retrieving** (requesting a version copy /version manager adapted to generate requests) a block, clients direct the operation to a server...Such load balancing (reduce network traffic / reduce

load) could even be hidden from the client application by **interposing a proxy server** that performs this operation on behalf of the client.

Dorward clearly disclosed any combination of servers / proxy servers arranged in a network. [0075], a background process on the server may copy new blocks from the data log to the mirrors.

Per claim 15:

A central server in a version control system used in software development configured manage multiple versions of the same file, the version control system including a proxy server having a read-only cache and connecting a client to the central server, the central server comprising the following:

- a) a repository of at least one set of data for obtaining a plurality of versions of a file used in said software development;
- b) a version manager adapted to provide a requested version of said file from said repository to said proxy server and adapted to control modifications to said data and to create new versions of said file;
- c) an access control system adapted to manage a request from the client to modify the contents of said repository;
- d) a memory structure adapted to store a log of modifications made to the contents of said repository and adapted to store a list of portions of said repository stored in the read-only cache of the proxy server.

See rejection of limitations addressed above in claims 1, 11, and 12. Dorward disclosed networked servers/ central server/ proxy servers, and a repository storage (FIG. 1). A plurality of versions may be obtained by accessing an index to locate the blocks [0041]. [0050], the basic operation of the server 104 is to store and retrieve data blocks based on their fingerprints or other substantially unique identifiers. [0026], access control policy, prohibits either a user or administrator from deleting or modifying data once it is stored [0021], the data storage element of the server operates in conjunction with the block cache, index cache and index to store archival data using the techniques of the present invention. [0040], append only log of data blocks and an index that maps fingerprints to locations in this log (stores log of modifications made to contents)

Per claim 16:

-said log is used to update said read-only cache in said proxy server after a disruption to the connection between said proxy server and said central server.

Dorward: [0034], previously stored data block is to be retrieved from the server 104...compute the fingerprint of the requested data...this operation allows the client to avoid errors from undetected data corruption and enables the server to identify when error recovery is necessary (after disruption). [0040], append-only log of data blocks and an index that maps fingerprints to locations in this log. See rejection of claim 1 regarding central server and proxy servers.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, 6-9, 17-21, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication 2003 / 0018878 A1 to Dorward et al., in view of US Patent 6,629,138B1 to Lambert et al.

Per claim 1:

A version control system for managing multiple versions of the same file being used in software development, the version control system comprising:

- a) a central server adapted to store a repository of at least one set of data for obtaining a plurality of versions of a file, said central server also being adapted to control all modifications to said data and to create new versions of said file;
- b) a proxy server connected to said central server, said proxy server including a read-only cache adapted to store copies of currently and previously accessed ones of said plurality of versions obtained from said repository through communication with said central server, said proxy server also being adapted to provide a requested version from said read-only cache when available and by requesting said requested version from said central server otherwise;
- c) at least one client connected to said proxy server, said at least one client comprising a version manager adapted to generate requests for a copy of said requested version through said proxy



server to reduce network traffic between said proxy server and said central server and to reduce load on said central server.

Dorward: [0017-0021], See FIG. 1 and related text. Network storage system 100 which implements an archival data storage technique (version control system)...**number of clients**...coupled to a **data storage server** 104 via a network 106...client...coupled to network...via a **file server (FS) device**...The server 104 includes a block cache 110, an index cache 112 coupled to an index 114, and a data storage element 116. [0018], The server 104 is preferably implemented as a computer or **set of computers and associated memory devices**...Similarly, the **file server** 108 is preferably implemented as **one or more computers**. [0019], element 104 can be implemented in a distributed manner, for example, as **a set of computers in the form of a server farm or cluster**.” [0021], server 104...to store archival data...the data storage element 116 may be a distributed storage element comprising multiple distinct storage devices, and may comprise, by way of example...RAID (redundant array of independent disks) devices...other long term storage devices, in any combination.

[0057-0058], server 104 provides a mechanism (server adapted to control all modifications) by which client applications can direct the storage and retrieval of data blocks...The **write once** (read only cache) nature of the server 104 does not allow such a tree to be modified, but new versions (create new versions) of the tree can be generated efficiently by storing the new or modified data blocks and reusing the unchanged sections of the tree (managing multiple versions

of the same file) (retrieve prior versions by using 'fingerprint' to find root of tree of blocks which correspond to a hierarchical hash of the original data).

[0075-0076], **off-site mirrors** for the server...**copy** new blocks...to the mirror [0076], **server 104 may be distributed across multiple machines...access performance could be improved** by replicating the server and using a simple load balancing algorithm. When storing or **retrieving** (requesting a version copy /version manager adapted to generate requests) a block, clients direct the operation to a server...Such load balancing (reduce network traffic / reduce load) could even be hidden from the client application by **interposing a proxy server** that performs this operation on behalf of the client.

Dorward disclosed a networked, distributed, archival storage system, storing copies of currently and previously accessed plurality of versions (use tree of pointers to reconstruct versions).

Dorward disclosed that the system may be in the form of a server farm or cluster, RAID devices, a proxy server, in any combination.

Dorward failed to disclose:

"provide a requested version from said read-only cache when available and by requesting said requested version from said central server otherwise;"

However, Lambert disclosed:

FIG. 2, Backend Server, #350, Caching Server, #304 Col. 5: 40-48 Client Machines, #100 Col. 5: 60-col. 6: 12, Caching servers can be deployed around the network to balance network load

and provide concentration of frequently used information...each caching server 304 is implemented as a standard HTTP proxy server...coupled together hierarchically. A subscribers requests to retrieve certain published content are managed by subscription manager 306...Web browser 100 sends an HTTP request to a remote caching server 204...caching server 204 either retrieved cached content from cache 300 or sends an HTTP request via the internet to a publisher's machine (backend server) to retrieve non-cached content (requesting said requested version from said central server otherwise). Col. 12: 55-67, caching server places the content in local storage while returning the content to the requestor...then satisfies subsequent request for the same content from the local storage rather than going to the network.

Therefore, it would have been obvious, to one of ordinary skill in the art, t the time of the invention, to modify Dorward, to include the teachings of Lambert, because one would be motivated to retrieve non-cached content from the root node server, in a hierarchical network of servers. Dorward disclosed techniques [0002] suitable for use in managing archival data in a network storage system. Analogously, Lambert's invention relates to (col. 1: 15-16) the storage and delivery of information over the internet, (col. 2: 24-26), managing passive and active data throughout.

Per claim 2

-a plurality of branches and a plurality of proxy servers;

-wherein, for a first branch of said plurality of branches, said central server is adapted to store a list of proxy servers selected from said plurality of proxy servers and associated with said first branch

-wherein the version control system is configured to send an update to notify each proxy server in the list when a change is made to said first branch.

See response to claim 1 regarding a plurality of proxy servers. As an example, [0019] a cluster represents a branch of a plurality of branches. Dorward disclosed replication and mirroring at [0035] (version control system/ update each proxy server). [0075], one or more off-site mirrors for the server....copy new blocks from the data log to the mirrors...write once policy

Per claim 3 :

-central server includes an access control system adapted to validate requests received by said central server.

Dorward: [0026], policy prohibits either a user or administrator from deleting or modifying data once it is stored (access control) [0045], identity of client device or other user [0057], server 104 provides a mechanism by which client applications can direct the storage and retrieval of data blocks

More explicitly Lambert disclosed:

Col. 14: 32-39, Some sites may not want any of their content cached...criteria are to always be verified from the network, and satisfied from the cache only if the content has not changed

(access control to validated content) Col. 24: 23-27, The notification system uses existing security infrastructure to give subscribers assurance that incoming notifications are indeed from the desired publisher...

Therefore, it would have been obvious, to one of ordinary skill in the art, t the time of the invention, to modify Dorward, to include the teachings of Lambert, because one would be motivated to retrieve non-cached content from the root node server, in a hierarchical network of servers. Derwood disclosed techniques [0002] suitable for use in managing archival data in a network storage system. Analogously, Lambert's invention relates to (col. 1: 15-16) the storage and delivery of information over the internet, (col. 2: 24-26), managing passive and active data throughout.

Per claim 6:

-the at least one client is adapted to modify the repository through said central server.

Dorward: [00076], when storing (modify the repository) or retrieving a block, clients direct the operation to a server...

More explicitly, Lambert disclosed:

Col. 9: 41-42, actual commands to manage a TOC can be issued either from a client machine...or from a management interface...

Therefore, it would have been obvious, to one of ordinary skill in the art, t the time of the invention, to modify Dorward, to include the teachings of Lambert, because one would be motivated to retrieve non-cached content from the root node server, in a hierarchical network of servers. Derwood disclosed techniques [0002] suitable for use in managing archival data in a network storage system. Analogously, Lambert's invention relates to (col. 1: 15-16) the storage and delivery of information over the internet, (col. 2: 24-26), managing passive and active data throughout.

Per claim 7:

Dorward failed to explicitly disclose:

-the central server includes a checkout mechanism for controlling modification to the repository.

However, Lambert disclosed:

Col. 10: 38-65, Adding...Removing...Modifying...changing it last modification date, version stamp...

Therefore, it would have been obvious, to one of ordinary skill in the art, t the time of the invention, to modify Dorward, to include the teachings of Lambert, because one would be motivated to retrieve non-cached content from the root node server, in a hierarchical network of servers. Derwood disclosed techniques [0002] suitable for use in managing archival data in a network storage system. Analogously, Lambert's invention relates to (col. 1: 15-16) the storage

and delivery of information over the internet, (col. 2: 24-26), managing passive and active data throughout.

Per claim 8:

-the central server includes a log of changes made to the repository.

Dorward: FIG. 3, #300 [0040], an append-only log of data blocks and an index that maps fingerprints to locations in this log.

Per claim 9:

-the log is used to update said proxy server after a disruption to the connection between the proxy server and the central server.

Dorward: [0034], previously stored data block is to be retrieved from the server 104...compute the fingerprint of the requested data...this operation allows the client to avoid errors from undetected data corruption and enables the server to identify when error recovery is necessary (after disruption). [0040], append-only log of data blocks and an index that maps fingerprints to locations in this log. See rejection of claim 1 regarding central server and proxy servers.

Per claim 17:

A proxy server in a version control system for managing multiple versions of the same file being used in software development, the version control system including a client and a central server containing a repository of at least one set of data for obtaining a plurality of versions of a file,

said proxy server comprising the following:

- a) a read-only cache adapted to store copies of said requested version and any currently and previously accessed ones of said plurality of versions obtained from said repository through communication with said central server;
- b) a version provider adapted to provide the requested version of the file to said client, the version provider being configured to, upon receiving a request for said requested version from said client, first check the read-only cache for the requested version to provide the requested version from said read-only cache when available and if the requested version is not available, to request the requested version from said central server on behalf of said client.

See rejection of limitations addressed in claim 1 above.

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Dorward, to include the teachings of Lambert, because one would be motivated to retrieve non-cached content from the root node server, in a hierarchical network of servers. Dorward disclosed techniques [0002] suitable for use in managing archival data in a network storage system. Analogously, Lambert's invention relates to (col. 1: 15-16) the storage and delivery of information over the internet, (col. 2: 24-26), managing passive and active data throughout.



Per claim 18:

-the read-only cache is configured to store copies of more than one of said plurality of versions of said file requested from said central server by said client.

Dorward: [0030], each block is given a unique hash / fingerprint. The unique identifier of a block is used to determine the block address for read (any version) and write operations. [0031], blocks cannot be modified without changing its address. This provides the write once policy. [0034], the requesting client and the server can compute the fingerprint of the requested data [0040], append only log of data blocks and an index that maps fingerprints to locations [0041], a given data block...efficiently located [0050], the basic operation of the server is to store and retrieve data blocks based on their fingerprints (store / retrieve plurality of versions)

Per claim 19:

A computer-readable medium containing processor instructions for implementing a version control system for managing multiple versions of the same file to be used in software development, including instructions for the following steps:

- a) storing a repository of at least one set of data for obtaining a plurality of versions of a file on a central server configured to control all modifications to said data and to create new versions of said file;
- b) establishing communication between said central server and a proxy server including a read-only cache configured to store copies of currently and previously accessed ones of said plurality of versions obtained from said repository through communication between said central server

and said proxy server;

c) establishing communication between said proxy server and a client comprising a version manager adapted to generate a request for a copy of a requested version of said file from said repository through said proxy server to reduce network traffic between said central server and said client and to reduce load on said central server.

d) causing said proxy server to provide said requested version from said read-only cache when available and by requesting said requested version from said central server otherwise.

See rejection of limitations as addressed in claim 1 above.

Dorward: [0076], access performance could be improved (reduce network traffic / load) by replicating the server and using a simple load balancing algorithm.

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Dorward, to include the teachings of Lambert, because one would be motivated to retrieve non-cached content from the root node server, in a hierarchical network of servers. Dorward disclosed techniques [0002] suitable for use in managing archival data in a network storage system. Analogously, Lambert's invention relates to (col. 1: 15-16) the storage and delivery of information over the internet, (col. 2: 24-26), managing passive and active data throughout.

Per claim 20:

- maintaining a list of additional proxy servers proxies for each branch in the version control system, said additional proxy servers being in addition to said proxy server in communication with said client;
- notifying said additional proxy servers in the list when a change is made to said versioned file each branch.

Dorward disclosed [0019], server farms or clusters, [0056], RAID devices, [0076], proxy server, replicating servers. All inherently maintain a list of branched servers.

Lambert: Col. 12: 15, Meta data and subscription policies are used to handle version control and notification of proxy servers. Col. 12: 35, multicast notification

Therefore, it would have been obvious, to one of ordinary skill in the art, t the time of the invention, to modify Dorward, to include the teachings of Lambert, because one would be motivated to retrieve non-cached content from the root node server, in a hierarchical network of servers. Dorward disclosed techniques [0002] suitable for use in managing archival data in a network storage system. Analogously, Lambert's invention relates to (col. 1: 15-16) the storage and delivery of information over the internet, (col. 2: 24-26), managing passive and active data throughout.

Per claim 21:

- said central server includes an access control system adapted to validate requests received by

said central server from said proxy server, said computer-readable medium further comprising instructions for the following step: validating said request received by said central server.

Dorward: [0026], policy prohibits either a user or administrator from deleting or modifying data once it is stored (access control) [0045], identity of client device or other user [0057], server 104 provides a mechanism by which client applications can direct the storage and retrieval of data blocks

More explicitly Lambert disclosed:

Col. 12: 41-42, secure HTTP and digital signature to authenticate (access control)

Col. 14: 32-39, Some sites may not want any of their content cached...criteria are to always be verified from the network, and satisfied from the cache only if the content has not changed (access control to validated content) Col. 24: 23-27, The notification system uses existing security infrastructure to give subscribers assurance that incoming notifications are indeed from the desired publisher...

Therefore, it would have been obvious, to one of ordinary skill in the art, t the time of the invention, to modify Dorward, to include the teachings of Lambert, because one would be motivated to retrieve non-cached content from the root node server, in a hierarchical network of servers. Derwood disclosed techniques [0002] suitable for use in managing archival data in a network storage system. Analogously, Lambert's invention relates to (col. 1: 15-16) the storage

and delivery of information over the internet, (col. 2: 24-26), managing passive and active data throughout.

Per claim 24:

- said client requesting via said proxy server modifications to said versioned file in said repository;
- said proxy server requesting said central server to make said modification to said versioned file in said repository.

See rejection of claim 6 above.

Per claim 28:

- chaining together a plurality of proxy servers configured to serve a geographic area;
- establishing communication between the plurality of chained together proxy servers and one proxy server, said one proxy server being connected to said central server;
- establishing communication between said one proxy server and said central server and
- sending updates from the central server for the plurality of chained together proxy servers are first to the one proxy server.

See rejection of claim 1 above, where all combinations of servers networked are disclosed.

Servers communicate and write to blocks to update.

More explicitly Lambert disclosed:

Col. 4: 30-col. 5: 25, wide area networks, back end server / content providers, An intelligent caching infrastructure that uses information called Meta Data about the content to control client and intermediate caches (plurality of chained together proxy servers)...The caches become intelligent delivery nodes...combine underlying transports and notifications... Col. 7: 6-10, A caching server can operation its own on behalf or a community of many users, who in turn have caching servers...can be placed at intranet/Internet boundaries to provide information concentration and conserve network bandwidth. Col. 5: 58, any number of intermediate caching servers

Therefore, it would have been obvious, to one of ordinary skill in the art, t the time of the invention, to modify Dorward, to include the teachings of Lambert, because one would be motivated to retrieve non-cached content from the root node server, in a hierarchical network of servers. Derwood disclosed techniques [0002] suitable for use in managing archival data in a network storage system. Analogously, Lambert's invention relates to (col. 1: 15-16) the storage and delivery of information over the internet, (col. 2: 24-26), managing passive and active data throughout.

Per claim 29:

Dorward failed to explicitly disclose:

-said proxy server is adapted to operate transparently to users of said at least one client.

However, Lambert disclosed caching servers at col. 6: 46 Col. 6: 9-12, Web browser sends an HTTP request and caching servers provides it from its cache or by otherwise retrieving the content.

Therefore, it would have been obvious, to one of ordinary skill in the art, t the time of the invention, to modify Dorward, to include the teachings of Lambert, because one would be motivated to retrieve non-cached content from the root node server, in a hierarchical network of servers. Derwood disclosed techniques [0002] suitable for use in managing archival data in a network storage system. Analogously, Lambert's invention relates to (col. 1: 15-16) the storage and delivery of information over the internet, (col. 2: 24-26), managing passive and active data throughout.

7. Claims 11-14 & 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application 2003/0018878 A1 to Dorward et al, in view of US Patent 6,629,138B1 to Lambert et al., and further in view of US Patent Application 2006 / 0059253 A1 to Goodman et al.

Per claim 11:

A method of modifying a repository of multiple versions of the same file in a version control system used in software development, said version control system including a central server and a first interconnected client interconnected to said central server through a first intervening proxy, a second client, and a second proxy, said method comprising the following steps:

- a) the first interconnected client requesting from the central server, through the first intervening proxy, a lock on a requested version of a file in the version control system, said requested version being one of a plurality of versions of said file recoverable from a set of data stored in a repository at said central server;
- b) the central server checking whether the requested version is unlocked and, if the requested version is unlocked, granting the request of said first interconnected client through said first intervening proxy;
- c) the central server sending an update to said second client and to said second proxy notifying the second client of the granting of the request.

See rejection of claim 1 above related to one or more servers, proxy servers, clients in any type of networked arrangement.

Dorward / Lambert failed to explicitly disclose “checking whether the requested version is unlocked and, if the requested version is unlocked, granting the request of said first interconnected client through said first intervening proxy;

c) the central server sending an update to said second client and to said second proxy notifying the second client of the granting of the request.”

However, Goodman disclosed a [0010] netcentric computer system and [0138] version control.

[0160] The data elements are preferentially controlled by a repository management team...

Poorly defined data elements can cause inconsistency, redundancy, and generation errors. Data



elements are therefore preferentially locked at least by the time construction starts, and possibly earlier, depending on the discipline of the team. Project members must be allowed to browse the data elements, but only the repository management team should be allowed to modify or unlock data elements. In some repositories, it is difficult to restrict the creation of repository objects. If this is the case, it may be acceptable to let designers create data elements if these are reviewed and locked at the end of each day.

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Dorward / Lambert, using the teachings of Goodman because version control tools (Goodman, [0332]) store information about who makes changes in what order so that the evolution of the system can be tracked. Locking and unlocking components helps reduce the complexity of the versioning process.

Per claim 12:

Dorward / Lambert failed to explicitly disclose

-said lock permits only said first interconnected client to modify said version of said file.

However, Goodman disclosed:

[0584] Transparent access provides clients 78, 79, 120 with access to remote files as if they were local. Multi-user access provides distribution and synchronization of files among multiple users, including file locking to manage access requests by multiple users. File access control provides use of security services (user authentication and authorization) to manage file system security.

Multi-platform access provides clients 78, 79, 120 with access to files located on various platforms (e.g., UNIX, NT, etc.). Integrated file directory provides a logical directory structure that combines all accessible file directories, regardless of the physical directory structure. Fault tolerance provides use of primary and replica file servers to ensure high availability of the file system. Scalability provides the ability to integrate networks and distributed file systems of various sizes.

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Dorward / Lambert, using the teachings of Goodman because version control tools (Goodman, [0332]) store information about who makes changes in what order so that the evolution of the system can be tracked. Locking and unlocking components helps reduce the complexity of the versioning process.

Per claim 13:

-said first interconnected client performing modification to said version of said file and returning the modification to said central server through said first intervening proxy.

Dorward: [0076], when storing (performing modification)...clients direct the operation to a server...

Per claim 14:

-said central server sending said modification to said second client and to said second proxy.

Dorward: [0075], server may copy new blocks...to the mirrors (a second proxy / client )

Per claim 25:

-controlling modification of the repository via a checkout mechanism comprising part of said central server.

See rejection of limitations addressed in claims 7 and 11 above.

Per claim 26:

-keeping in the central server a log of changes made to the repository.

See rejection of claim 8 above.

Per claim 27:

-the log is used to update said proxy server after a disruption to the connection between the proxy server and the central server.

See rejection of claim 9 above.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Microsoft Computer Dictionary Fifth Edition (2002)

RAID—Acronym for redundant array of independent disks. A datastorage method in which data is distributed across a group of computer disk drives that function as a single storage unit. All the information stored on each of the disks is duplicated on other disks in the array. This redundancy ensures that no information will be lost if one of the disks fails.

File Server – a file storage device on a local area network that is accessible to all users on the network. Unlike a disk server, which appears to the user as a remote disk drive, a file server is a sophisticated device that not only stores files but manages them and maintains order as network users request files and make changes to them. To deal with the tasks of handling multiple – sometimes simultaneous- requests for files, a file server contains a processor and controlling software as well as a disk drive for storage.

Cluster – A group of independent network servers that operate – and appear to clients – as if they were a single unit. A cluster network is designed to improve network capacity by, among other things, enabling the servers within a cluster to shift work in order to balance the load. By enabling one server to take over for another, a cluster network also enhances stability and minimizes or eliminates downtime caused by application or system failure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Steelman, whose telephone number is (571) 272-3704. The examiner can normally be reached Monday through Thursday, from 7:00 AM to 5:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached at (571) 272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Mary Steelman/

Primary Examiner

**MARY STEELMAN  
PRIMARY EXAMINER**

12/12/2007